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FILE 'BIOSIS' ENTERED AT 11:58:21 ON 29 NOV 2000  
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=> s phytostenol# or phytosterol# or sitostenol# or sitostanol# or sitosterol#

L1 18440 PHYTOSTENOL# OR PHYTOSTEROL# OR SITOSTENOL# OR SITOSTANOL# OR SITOSTEROL#

=> s fatty(w)acid#

L2 535195 FATTY(W) ACID#

=> s unsaturat?(w)fatty(w)acid#

L3 35497 UNSATURAT?(W) FATTY(W) ACID#

=> s l1 and l3

L4 225 L1 AND L3

=> s hypocholest? or lower(n)cholest? or reduct?(s)cholest?

L5 53398 HYPOCHOLEST? OR LOWER(N) CHOLEST? OR REDUCT?(S) CHOLEST?

=> s l4 and l5

L6 11 L4 AND L5

=> d kwic ibib so l6 1-11

L6 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2000 ACS

TI Method for manufacturing fat-soluble **phytosterol** or phytostanol ester of **unsaturated fatty acid**

AB The present invention provides a method for manufg. fat-sol. **phytosterol** or phytostanol ester of **unsatd. fatty acid** for inhibiting the absorption of cholesterol and foodstuffs contg. the same. The method for manufg. fat-sol.

**phytosterol** or phytostanol ester of **unsatd. fatty acid** comprises the steps of: esterification of **phytosterol** or phytostanol with **unsatd. fatty acid** by dissolving them in a nonpolar org. solvent with a basic catalyst and adding a carboxyl group activating agent dissolved.

ST **phytosterol** fatty ester fat soluble prodn **cholesterol** absorption **redn**; phytostanol fatty ester fat soluble prodn **cholesterol** absorption **redn**; **sitosterol** oleate prodn esterification **cholesterol** lowering effect

IT Fatty acids, preparation  
 RL: BUU (Biological use, unclassified); IMF (Industrial manufacture);

BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (esters; method for manufg. fat-sol. **phytosterol** or phytostanol ester of **unsatd. fatty acid**)

IT 57-88-5, Cholesterol, biological studies  
 RL: BPR (Biological process); BIOL (Biological study); PROC (Process)  
 (method for manufg. fat-sol. **phytosterol** or phytostanol ester of **unsatd. fatty acid**)

IT 3712-16-1P, .beta.-**Sitosterol** oleate  
 RL: BUU (Biological use, unclassified); IMF (Industrial manufacture);

BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (method for manufg. fat-sol. **phytosterol** or phytostanol ester of **unsatd. fatty acid**)

IT 83-46-5, .beta.-**Sitosterol** 112-80-1, Oleic acid, reactions  
 RL: RCT (Reactant)  
 (method for manufg. fat-sol. **phytosterol** or phytostanol ester of **unsatd. fatty acid**)

ACCESSION NUMBER: 2000:742194 CAPLUS  
 DOCUMENT NUMBER: 133:323278  
 TITLE: Method for manufacturing fat-soluble **phytosterol** or phytostanol ester of **unsaturated fatty acid**

INVENTOR(S): Chung, Dae-Won; Noh, Seung-Kwon; Kim, Kab-Sig  
 PATENT ASSIGNEE(S): Eugene Science, Inc., S. Korea  
 SOURCE: PCT Int. Appl., 19 pp.  
 CODEN: PIXXD2

DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061694	A1	20001019	WO 1999-KR569	19990921
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
PRIORITY APPLN. INFO.:			KR 1999-12965	19990413
SO PCT Int. Appl., 19 pp. CODEN: PIXXD2				
REFERENCE COUNT:		4		
REFERENCE(S):		(1) Henkel; WO 9925362 A1 1999 CAPLUS (2) Raisio Benecol Oy; WO 9956558 A1 1999 CAPLUS (3) Raisio Margarini; WO 9219640 A1 1992 CAPLUS (4) Tackett, T; US 5117016 A 1992 CAPLUS		

AB . . . plasma cholesterol level has a direct assocn. with coronary heart

disease, ischemic heart disease, acute myocardial infarction, and atherosclerosis. A **lower cholesterol** level reduces their risk. Among the plasma cholesterol fractions the low-d.

lipoprotein

cholesterol and first of all its oxidized forms have strong relationship to the mentioned diseases. The chem. similar **phytosterols** in plants have favorable effect, they prevent the absorption of cholesterol from the intestine. The high-d. lipoprotein transports the cholesterol. . . may be influenced by nutrition. It looks advantageous the diet contg. low fat, low satd. fatty acids, low cholesterol, more **unsatd. fatty acids**, high consumption of fruits and vegetables, adequate intake of dietary fiber. The high-d. lipoprotein level will be increased mainly. . .

ACCESSION NUMBER: 1999:521301 CAPLUS  
DOCUMENT NUMBER: 131:228043  
TITLE: The essential and accursed cholesterol  
AUTHOR(S): Biro, Gyorgy  
CORPORATE SOURCE: Budapest, Hung.  
SOURCE: Elelmez. Ip. (1999), 53(6), 161-166  
CODEN: EMIPAB; ISSN: 0013-5909  
PUBLISHER: METE  
DOCUMENT TYPE: Journal; General Review  
LANGUAGE: Hungarian  
SO Elelmez. Ip. (1999), 53(6), 161-166  
CODEN: EMIPAB; ISSN: 0013-5909

L6 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2000 ACS

TI Use of mixtures containing **phytosterols** for producing **hypocholesteremic** preparations

AB Mixts. of active agents contg. (a) **phytosterols** and/or **phytosterol** esters and (b) conjugated fatty acids or their glycerides are used to produce **hypocholesteremic** prepns. These mixts. have a synergistic effect in reducing the cholesterol content of serum. When encapsulated in gelatin, the prepns.. . .

ST **hypocholesteremic phytosterol unsatd fatty acid**; synergistic **hypocholesteremic phytosterol fatty acid**

IT **Unsaturated fatty acids**

RL: BAC (Biological activity or effector, except adverse); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (diunsatd., with conjugated double bonds; use of mixts. contg. **phytosterols** for producing **hypocholesteremic** prepns.)

IT Sterol esters

Sterols

RL: BAC (Biological activity or effector, except adverse); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (from plants; use of mixts. contg. **phytosterols** for producing **hypocholesteremic** prepns.)

IT Glycerides, biological studies

RL: BAC (Biological activity or effector, except adverse); FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (polyunsatd. fatty acid-contg., with conjugated double bonds; use of mixts. contg. **phytosterols** for producing **hypocholesteremic** prepns.)

IT Anticholesteremic agents

Butter

Capsules (drug delivery systems)

Cocoa products

Dietary food

Food

Margarine

Mayonnaise

Salad dressings

Sausage  
 Synergistic drug interactions  
 (use of mixts. contg. **phytostenols** for producing  
**hypocholesteremic** prepns.)

IT Fats and Glyceridic oils, biological studies  
 RL: FFD (Food or feed use); BIOL (Biological study); USES (Uses)  
 (use of mixts. contg. **phytostenols** for producing  
**hypocholesteremic** prepns.)

IT Polyunsaturated fatty acids  
 RL: BAC (Biological activity or effector, except adverse); FFD (Food or  
 feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (with conjugated double bonds; use of mixts. contg.  
**phytostenols** for producing **hypocholesteremic** prepns.)

IT Fatty acid esters  
 RL: BAC (Biological activity or effector, except adverse); FFD (Food or  
 feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (with **phytostenols**; use of mixts. contg. **phytostenols**  
 for producing **hypocholesteremic** prepns.)

IT 83-45-4, .beta.-**Sitostanol** 83-45-4D, .beta.-**Sitostanol**  
 , esters 83-46-5 83-46-5D, esters 1839-11-8D, 9,11-Octadecadienoic  
 acid, esters with **phytostenols** 41005-65-6 109033-78-5  
 RL: BAC (Biological activity or effector, except adverse); FFD (Food or  
 feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (use of mixts. contg. **phytostenols** for producing  
**hypocholesteremic** prepns.)

ACCESSION NUMBER: 1999:344854 CAPLUS  
 DOCUMENT NUMBER: 130:347399  
 TITLE: Use of mixtures containing **phytostenols** for  
 producing **hypocholesteremic** preparations  
 INVENTOR(S): Fabry, Bernd  
 PATENT ASSIGNEE(S): Henkel Kommanditgesellschaft auf Aktien, Germany  
 SOURCE: PCT Int. Appl., 19 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9925362	A1	19990527	WO 1998-EP7059	19981105
W: AU, BG, BR, BY, CA, CN, CZ, HU, ID, IS, JP, KR, LT, LV, MX, NO, NZ, PL, RO, RU, SI, SK, TR, UA, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19750453	A1	19990527	DE 1997-19750453	19971114
AU 9915603	A1	19990607	AU 1999-15603	19981105
EP 1028733	A1	20000823	EP 1998-959848	19981105
R: DE, ES, FR, GB, IT, NL				
PRIORITY APPLN. INFO.:			DE 1997-19750453	19971114
			WO 1998-EP7059	19981105
OTHER SOURCE(S): MARPAT 130:347399				
SO PCT Int. Appl., 19 pp.				
CODEN: PIXXD2				
REFERENCE COUNT: 7				
REFERENCE(S):				
(1) Funes; 1980, 5, CAPLUS				
(2) Funes, C; AN ASOC QUIM ARGENT 1978, V66(5), P239				
(3) Hasegawa; Hypocholesteremic Effect of Linoleic Acid and Phytosterol 1984, 25, CAPLUS				
(4) Hasegawa; JOSHI EIYO DAIGAKU KIYO 1983, V14, P165 CAPLUS				
(5) Kosbab, J; WO 9833494 A 1998				
ALL CITATIONS AVAILABLE IN THE RE FORMAT				

AB . . . onto the Indian market for human use. RBO contains oleic acid (38.4%), linoleic acid (34.4%), and linolenic acid (2.2%) as **unsatd. fatty acids**, and palmitic (21.5%) and stearic (2.9%) acids as satd. fatty acids. The unsaponifiable fraction (4.2%) has total tocopherols (81.3 mg%), . . . and 24-methylene cycloartanol (494 mg%). Studies on exptl. rats demonstrated a hypolipidemic effect of RBO. The unsaponifiable fraction of RBO **lowers cholesterol** levels. Feeding **phytosterols**, CA, and 24-methylene cycloartanol in amts. present in RBO to hypercholesterolemic rats for 8 wk indicates that CA alone reduces . . . and triglyceride levels significantly. Endogenous sterol excretion increases in animals given CA. The accumulation of CA in the liver inhibits **cholesterol** esterase activity, which in turn leads to **redn.** in circulating **cholesterol** levels. CA is structurally similar to cholesterol and may compete with the binding sites of cholesterol and sequester cholesterol, which. . . derivs. RBO, which is rich in tocopherols and tocotrienols, may improve oxidative stability. Tocotrienols inhibit HMG CoA reductase, resulting in **hypcholesterolemia**. The hypolipidemic effect of RBO has also been established in human subjects. Thus, RBO could be a suitable edible oil.

ACCESSION NUMBER: 1992:127428 CAPLUS  
 DOCUMENT NUMBER: 116:127428  
 TITLE: Nutritional and biochemical aspects of the hypolipidemic action of rice bran oil: a review  
 AUTHOR(S): Rukmini, Cheruvanky; Raghuram, Thummala C.  
 CORPORATE SOURCE: Natl. Inst. Nutr., Indian Counc. Med. Res., Hyderabad,  
 500007, India  
 SOURCE: J. Am. Coll. Nutr. (1991), 10(6), 593-601  
 CODEN: JONUDL; ISSN: 0731-5724  
 DOCUMENT TYPE: Journal; General Review  
 LANGUAGE: English  
 SO J. Am. Coll. Nutr. (1991), 10(6), 593-601  
 CODEN: JONUDL; ISSN: 0731-5724

L6 ANSWER 5 OF 11 MEDLINE

AB . . . onto the Indian market for human use. RBO contains oleic acid (38.4%), linoleic acid (34.4%), and linolenic acid (2.2%) as **unsaturated fatty acids**, and palmitic (21.5%) and stearic (2.9%) acids as saturated fatty acids. The unsaponifiable fraction (4.2%) has total tocopherols (81.3 mg%), . . . and 24-methylene cycloartanol (494 mg%). Studies on experimental rats demonstrated a hypolipidemic effect of RBO. The unsaponifiable fraction of RBO **lowers cholesterol** levels. Feeding **phytosterols**, CA, and 24-methylene cycloartanol in amounts present in RBO to hypercholesterolemic rats for 8 weeks indicates that CA alone reduces **cholesterol** and triglyceride levels significantly. Endogenous sterol excretion increases in animals given CA. The accumulation of CA in the liver inhibits **cholesterol** esterase activity, which in turn leads to **reduction** in circulating **cholesterol** levels. CA is structurally similar to **cholesterol** and may compete with the binding sites of **cholesterol** and sequester **cholesterol**, which is metabolized to its derivatives. RBO, which is rich in tocopherols and tocotrienols, may improve oxidative stability. Tocotrienols inhibit HMG CoA **reductase**, resulting in **hypcholesterolemia**. The hypolipidemic effect of RBO has also been established in human subjects. Thus, RBO could be a suitable edible oil.

ACCESSION NUMBER: 92121598 MEDLINE  
 DOCUMENT NUMBER: 92121598  
 TITLE: Nutritional and biochemical aspects of the hypolipidemic action of rice bran oil: a review.

AUTHOR: Rukmini C; Raghuram T C  
CORPORATE SOURCE: National Institute of Nutrition, Indian Council of Medical Research, Hyderabad..  
SOURCE: JOURNAL OF THE AMERICAN COLLEGE OF NUTRITION, (1991 Dec) 10 (6) 593-601. Ref: 36  
10 Journal code: H51. ISSN: 0731-5724.  
PUB. COUNTRY: United States  
Journal; Article; (JOURNAL ARTICLE)  
General Review; (REVIEW)  
(REVIEW, TUTORIAL)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 199204  
SO JOURNAL OF THE AMERICAN COLLEGE OF NUTRITION, (1991 Dec) 10 (6) 593-601.  
Ref: 36  
Journal code: H51. ISSN: 0731-5724.

L6 ANSWER 6 OF 11 MEDLINE  
AB . . . fraction of soybean (PUFS) given over 24 weeks to 19 patients with primary types IIa and IIb hyperlipoproteinemia. The percent **reduction** of plasma **cholesterol** in types IIa and IIb were 13.2% and 11.5%, respectively. PUFS significantly reduced LDL **cholesterol** levels, but had little affect on VLDL or HDL **cholesterol**. The triglyceride/**cholesterol** ratio in HDL fraction was also significantly reduced, suggesting that PUFS plays a role in the catabolism of HDL. PUFS contained tocopherol and **unsaturated fatty acid**. The relative impact of the individual components could not be assessed directly, however, it seemed reasonable to conclude that the hypo-**cholesterolemic** effect of PUFS results from a summation effect of plant sterols, tocopherols and **unsaturated fatty acids**.

CT . . .  
TU, therapeutic use  
Cholesterol: BL, blood  
Hypercholesterolemia, Familial: BL, blood  
\*Hypercholesterolemia, Familial: DT, drug therapy  
Lipoproteins, LDL Cholesterol: BL, blood  
\***Phytosterols: TU, therapeutic use**  
Soybeans  
Triglycerides: BL, blood

CN 0 (Antilipemic Agents); 0 (Lipoproteins, LDL Cholesterol); 0 (**Phytosterols**); 0 (Triglycerides)

ACCESSION NUMBER: 85148557 MEDLINE  
DOCUMENT NUMBER: 85148557  
TITLE: Effect of the purified unsaponifiable fraction of soybean on primary type II hyperlipoproteinemia.  
AUTHOR: Nakashima Y; Nakamura T; Aramaki Y; Kuroiwa A  
SOURCE: ARTERY, (1983) 12 (3) 199-211.  
Journal code: 8NN. ISSN: 0098-6127.  
PUB. COUNTRY: United States  
Journal; Article; (JOURNAL ARTICLE)  
LANGUAGE: English  
FILE SEGMENT: Priority Journals  
ENTRY MONTH: 198506  
SO ARTERY, (1983) 12 (3) 199-211.  
Journal code: 8NN. ISSN: 0098-6127.

L6 ANSWER 7 OF 11 EMBASE COPYRIGHT 2000 ELSEVIER SCI. B.V.  
AB . . . onto the Indian market for human use. RBO contains oleic acid (38.4%), linoleic acid (34.4%), and linolenic acid (2.2%) as **unsaturated fatty acids**, and palmitic (21.5%) and stearic (2.9%) acids as saturated fatty acids. The unsaponifiable fraction (4.2%) has total tocopherols (81.3 mg%), . . . and 24-methylene

cycloartanol (494 mg%). Studies on experimental rats demonstrated a hypolipidemic effect of RBO. The unsaponifiable fraction of RBO **lowers cholesterol** levels. Feeding **phytosterols**, CA, and 24-methylene cycloartanol in amounts present in RBO to hypercholesterolemic rats for 8 weeks indicates that CA alone reduces **cholesterol** and triglyceride levels significantly. Endogenous sterol excretion increases in animals given CA. The accumulation of CA in the liver inhibits **cholesterol** esterase activity, which in turn leads to **reduction** in circulating **cholesterol** levels. CA is structurally similar to **cholesterol** and may compete with the binding sites of **cholesterol** and sequester **cholesterol**, which is metabolized to its derivatives. RBO, which is rich in tocopherols and tocotrienols, may improve oxidative stability. Tocotrienols inhibit HMG CoA **reductase**, resulting in **hypcholesterolemia**. The hypolipidemic effect of RBO has also been established in human subjects. Thus, RBO could be a suitable edible oil.

ACCESSION NUMBER: 92262702 EMBASE  
DOCUMENT NUMBER: 1992262702  
TITLE: Nutritional and biochemical aspects of the hypolipidemic action of rice bran oil: A review.  
AUTHOR: Rukmini C.; Raghuram T.C.  
CORPORATE SOURCE: National Institute of Nutrition, Hyderabad 500007, India  
SOURCE: Journal of the American College of Nutrition, (1991) 10/6 (593-601).  
ISSN: 0731-5724 CODEN: JONU DL  
COUNTRY: United States  
DOCUMENT TYPE: Journal; General Review  
FILE SEGMENT: 006 Internal Medicine  
017 Public Health, Social Medicine and Epidemiology  
018 Cardiovascular Diseases and Cardiovascular Surgery  
029 Clinical Biochemistry  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
SO Journal of the American College of Nutrition, (1991) 10/6 (593-601).  
ISSN: 0731-5724 CODEN: JONU DL  
L6 ANSWER 8 OF 11 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
TI Oil and fat composition containing **phytosterol** for preparation of food and pharmaceuticals.  
AB WO 9959423 UPAB: 20000330  
NOVELTY - Composition comprises a **phytosterol** dissolved in an oil and fat comprising one or more polyhydric alcohol/fatty acid esters each having an esterification degree of. . . more and containing at least one unesterified hydroxyl group.  
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a **phytosterol** containing food which comprises one or more lipid ingredients comprising at least 15 wt.% one or more diacylglycerols. The weight ratio of diacylglycerols to **phytosterol** is 10-100.  
USE - Used for preparation of oil in water type fat-processed foods such as drinks, desserts, ice creams,. . . cakes, cookies, pies, breads and chocolates, and other foods including bakery mixes, processed meat products, frozen entrees and frozen foods, **hypcholesteremic** preparation in the form of a capsule, sugar-coated tablet, molded granules, candy or drop.  
ADVANTAGE - Blood cholesterol level is. . . good workability, and the flavor and feeling of food items are not changed. Generation of smoking during cooking is eliminated. **Phytosterol** is solubilized by the composition.  
Dwg.0/0  
TECH. . . esterification degree of 2-4.5 and comprises glycerol/fatty acid esters, polyglycerol/fatty acid esters, sucrose/fatty acid esters or sorbitan/fatty acid esters. The **phytosterol** is contained in an

amount of 1.2 wt.% or more. 55 wt.% Fatty acids contained in diacylglycerols are **unsaturated fatty acids**.

The composition is a frying oil.

TT TT: OIL FAT COMPOSITION CONTAIN **PHYTOSTEROL** PREPARATION FOOD.  
PHARMACEUTICAL.

ACCESSION NUMBER: 2000-105555 [09] WPIDS  
CROSS REFERENCE: 1999-571935 [48]  
DOC. NO. CPI: C2000-031612  
TITLE: Oil and fat composition containing **phytosterol**  
for preparation of food and pharmaceuticals.  
DERWENT CLASS: A96 B01 D13  
INVENTOR(S): GOTO, N; NISHIDE, T; TANAKA, Y; YASUKAWA, T  
PATENT ASSIGNEE(S): (KAOS) KAO CORP  
COUNTRY COUNT: 23  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9959423	A1	19991125	(200009)*	EN	26
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: BR CA CN SG					
US 6025348	A	20000215	(200016)#		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9959423	A1	WO 1998-JP2228	19980521
US 6025348	A	US 1998-69754	19980430

PRIORITY APPLN. INFO: WO 1998-JP2228 19980521; US 1998-69754  
19980430

L6 ANSWER 9 OF 11 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD  
TI . . . risk of cardiovascular or lipid diseases, diabetes and thyroid  
disease - using as risk indicator the ratio of campesterol to beta-  
**sitosterol** in the serum, also treatment of these disorders with  
**phytosterol(s)**.

AB WO 9801759 UPAB: 19980302  
The ratio (R), in serum, of campesterol (I) to beta -**sitosterol**  
(II) is determined, compared with that in a normal control and used as an  
indicator of increased risk of cardiovascular. . . Also claimed are:  
(1) method for assessing risk of cardiovascular and lipid disorders by  
measuring (R), serum levels of total **phytosterols** (TP) and total  
cholesterol (TC) and comparing all 3 values with those of normal  
controls;

(2) method for increasing the inhibitory effect of **phytosterols**  
(III) on enterocyte absorption of cholesterol (IV) by administering (III)  
that inhibits absorption of (IV) and/or (II); (3) (IV)-lowering  
composition. . . treatment of diabetes and thyroid disease or dietary  
modification to increase TP and (R). (III) are hydrophobic, particularly  
(I) and **sitosterol**, and may be supplied as safflower, sesame  
seed, maize, rice bran, olive, rapeseed, flaxseed or coconut oils.  
Particularly (III) are administered together with (i) at least 1  
inhibitor

of (IV) biosynthesis, especially (A); (ii) one or more saturated or  
mono/poly-**unsaturated fatty acids** (also  
providing a synergistic effect) or (iii) plant oils as specified above.  
Optionally the composition of (3) also includes 2-6%. . . of the (IV)  
level, e.g. in subjects with apparently normal (IV) level. (III) lowers  
serum TC and low-density lipoprotein (LDL) **cholesterol**, but  
increases HDL and the HDL/LDL ratio, and there is a synergistic effect  
when used with inhibitors (A) of 3-hydroxy-3-methylglutaryl coenzyme A  
**reductase**, allowing a **reduction** in the dose of (A), and



thus of side effects.

Dwg.1/13

TT TT: DIAGNOSE RISK CARDIOVASCULAR LIPID DISEASE DIABETES THYROID DISEASE  
RISK INDICATE RATIO BETA **SITOSTEROL** SERUM TREAT DISORDER

**PHYTOSTEROL.**

ACCESSION NUMBER: 1998-101200 [09] WPIDS  
DOC. NO. NON-CPI: N1998-081048  
DOC. NO. CPI: C1998-033490  
TITLE: Diagnosing risk of cardiovascular or lipid diseases,  
diabetes and thyroid disease - using as risk indicator  
the ratio of campesterol to beta-**sitosterol** in  
the serum, also treatment of these disorders with

**phytosterol(s).**

DERWENT CLASS: B04 D16 S03  
INVENTOR(S): NOVAK, E  
PATENT ASSIGNEE(S): (FORB-N) FORBES MEDI-TECH INC  
COUNTRY COUNT: 74  
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9801759	A1	19980115	(199809)*	EN	93
RW: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE					
GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW					
MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN YU					
AU 9732518	A	19980202	(199826)		
EP 912900	A1	19990506	(199922)	EN	
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE					
SI					
US 5965449	A	19991012	(199949)		
CZ 9900011	A3	20000112	(200009)		
HU 9904042	A2	20000328	(200025)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9801759	A1	WO 1997-CA474	19970703
AU 9732518	A	AU 1997-32518	19970703
EP 912900	A1	EP 1997-928091	19970703
		WO 1997-CA474	19970703
US 5965449	A	US 1996-675018	19960703
CZ 9900011	A3	WO 1997-CA474	19970703
		CZ 1999-11	19970703
HU 9904042	A2	WO 1997-CA474	19970703
		HU 1999-4042	19970703

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9732518	A Based on	WO 9801759
EP 912900	A1 Based on	WO 9801759
CZ 9900011	A3 Based on	WO 9801759
HU 9904042	A2 Based on	WO 9801759

PRIORITY APPLN. INFO: US 1996-675018 19960703

\* L6 ANSWER 10 OF 11 BIOSIS COPYRIGHT 2000 BIOSIS  
AB. . . onto the Indian market for human use. RBO contains oleic acid  
(38.4%), linoleic acid (34.4%), and linolenic acid (2.2%) as  
**unsaturated fatty acids**, and palmitic (21.5)  
and stearic (2.9%) acids as saturated fatty acids. The unsaponifiable  
fraction (4.2%) has total tocopherols (81.3% mg%), . . . and

24-methylene cycloartanol (494 mg%). Studies on experimental rats demonstrated a hypolipidemic effect of RBO. The unsaponifiable fraction of

RBO **lowers cholesterol** levels. Feeding **phytosterols**, CA, and 24-methylene cycloartanol in amounts present in RBO to hypercholesterolemic rats for 8 weeks indicates that CA alone reduces **cholesterol** and triglyceride levels significantly. Endogenous sterol excretion increases in animals given CA. The accumulation of CA in the liver inhibits **cholesterol** esterase activity, which in turn leads to **reduction** in circulating **cholesterol** levels. CA is structurally similar to **cholesterol** and may compete with the binding sites of **cholesterol** and sequester **cholesterol**, which is metabolized to its derivatives. RBO, which is rich in tocopherols and tocotrienols, may improve oxidative stability. Tocotrienols inhibit HMG CoA **reductase**, resulting in **hypocholesterolemia**. The hypolipidemic effect of RBO has also been established in human subjects. Thus, RBO could be a suitable edible oil. . . .

ACCESSION NUMBER: 1992:75496 BIOSIS  
DOCUMENT NUMBER: BA93:43951  
TITLE: NUTRITIONAL AND BIOCHEMICAL ASPECTS OF THE HYPOLIPIDEMIC ACTION OF RICE BRAN OIL A REVIEW.  
AUTHOR(S): RUKMINI C; RAGHURAM T C  
CORPORATE SOURCE: NATL. INST. NUTRITION, HYDERABAD 500007, INDIA.  
SOURCE: J AM COLL NUTR, (1991) 10 (6), 593-601.  
CODEN: JONU DL. ISSN: 0731-5724.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English  
SO J AM COLL NUTR, (1991) 10 (6), 593-601.  
CODEN: JONU DL. ISSN: 0731-5724.

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AB The effects of dietary fats and **phytosterol** on the fatty acid composition and lipoprotein cholesterol in serum were studied in female rats with the following results. The. . . due to an increase in the lower density lipoprotein (LDL + VLDL [very low density lipoprotein]).

The

addition of 5% **phytosterol** to the 10% butter-cholesterol diet reduced the total cholesterol level and increased the ratio of cholesterol in high density lipoprotein. . . = 0.947), and also the level of LDL + VLDL-cholesterol ( $r = 0.935$ ). Cod liver oil, wheat germ oil and **phytosterol** induce an increase in the PUFA/SFA ratio, promote **hypocholesterolemia** and change lipoprotein concentration. There were indications that no relationship exists between the change in the total cholesterol level and. . . .

IT Miscellaneous Descriptors

COD LIVER OIL WHEAT GERM OIL POLY **UNSATURATED FATTY -ACID SATURATED FATTY-ACID HYPO CHOLESTEROLEMIA OLEIC-ACID**

ACCESSION NUMBER: 1984:349467 BIOSIS  
DOCUMENT NUMBER: BA78:85947  
TITLE: EFFECTS OF DIETARY FATS AND PHYTO STEROL ON SERUM FATTY-ACID COMPOSITION AND LIPO PROTEIN CHOLESTEROL IN RATS.  
AUTHOR(S): HIRAI K; OHNO Y; NAKANO T; IZUTANI K  
CORPORATE SOURCE: DEP. NUTR. BIOCHEM., FAC. SCI. LIVING, OSAKA CITY UNIV., SUMIYOSHI, OSAKA 558, JPN.  
SOURCE: J NUTR SCI VITAMINOL, (1984) 30 (2), 101-112.  
CODEN: JNSVA5. ISSN: 0301-4800.  
FILE SEGMENT: BA; OLD  
LANGUAGE: English  
SO J NUTR SCI VITAMINOL, (1984) 30 (2), 101-112.